

ABSTRACT

A four-stroke engine employs engine vibration for lubricating engine components. The engine vibration induces a ripple in a surface portion of the oil in an oil reservoir, which is located within a crankcase of the engine. The oil ripple causes misting of the oil, which lubricates exposed engine components. Providing a crankcase wall thickness of about 1.5 mm or less can increase the engine vibration. Alternatively, a clearance area located within the crankcase can be decreased to facilitate contact of the oil surface ripple with a counterweight, thereby splashing the oil onto exposed engine components. Vibration of the engine can be further increased by coupling a vibration plate or spring to a portion of the crankcase.